

APPENDIX C - Agreement to Participate in the Child Observational Play Study Adult Consent Form / Caregiver Permission Form (for child participant)

This study is sponsored by the Consumer Product Safety Commission (CPSC). Please read this form carefully.

To help you decide if you and your child want to participate, this form provides important information about what you will be asked to do during the study, the risks and benefits of the study, and you and your child's rights as a research subjects.

- If you have any questions or do not understand something in this form, you should ask the researcher for more information.
- Before you make a decision about you or your child's participation, you can also discuss your participation with anyone you choose, such as family or friends.
- Do not agree to participate in this study unless the research team has answered all your questions and you decide that you want to be part of this study.
- You are being asked to participate in a study to gather information to help the CPSC determine the developmentally appropriate ages for selected toys and to help identify the types of information caregivers use when deciding to buy a toy. You will be asked to look at some toys and complete a questionnaire that asks you about your opinion of the different toys. Your child will be asked to play with nine different toys. Information will be gathered as a researcher observes your child playing with toys.

If you agree to participate and allow your child to participate in this study, please sign your name at the end of this form. You will receive a copy of this form for your records.

Purposes and Procedures. During the study, you and your child will be given the opportunity to look at and play with nine different toys. The nine toys come from each of six toy categories, smart toys, take-apart vehicles, musical instruments, figurines, plush toys with electronic components, and manipulatives. Once you have had time to interact with the toy you will be asked to complete a self-administered questionnaire about your buying habits, safety of the toy, etc. The questionnaire also includes specific questions about the toys. You will be filling out the questionnaire as your child plays with the toys in the same room. While your child is playing with the toys, information will be gathered from observing your child's interactions with toys. The study takes place over two sessions, the first session will take up to 75 minutes to complete and the second session will take up to 60 minutes to complete. We will be videotaping your child's play with the toys to help with our analysis and writing a report of our findings.

Participation. Participating in the research study is completely voluntary. You may agree or refuse to participate. If you agree to participate, you can stop at any time during the study. You will receive a total of \$150 for helping us (\$50 after Session 1 and \$100 after Session 2). Your child can participate even if you do not agree to the Video Release form.

Confidentiality. All information collected during the study is confidential to the fullest extent of the law and will not be presented in any form that identifies you or your child. Your child will never be identified in any reports that we write. The information gathered during the study, will be used only by Westat and CPSC staff who are involved in the project. All documents containing identifying information about you or your child will be destroyed within twelve months of the end of this research study. Any video collected that shows your child's face will be blurred if used for educational purposes in the classroom, in professional conferences and presentations, and for other similar educational purposes. The report will present our findings in a summary form and will be shared with CPSC.

Risks. There are no expected risks in participating in this study.

Benefits. The findings of this study may be used to inform safety standards for children's toys. Specifically, the information gathered will help to enrich CPSC's understanding of the ages of children who are interested in these toys, as well as who can use them as the manufacturer intends. There are no direct benefits to you or your child, other than the opportunity to play with new toys.

Questions.

If you have any questions about this study please contact:

Dr. Doreen De Leonardis
(301) 315-5963
Westat
1600 Research Boulevard
Rockville, MD 20850

If you have any questions **about your rights and welfare as a research participant**, please call the Westat Human Subjects Protection office at 1-888-920-7631. Please leave a message with your first name and **the name of the study, "Child Observational Play Study"**, and a phone number beginning with the area code. Someone will return your call as soon as possible.

Authorization.

By signing this form, you certify that you have read this form and that you agree to take part in the study and that you give permission for your child(ren) to take part in the study.

I _____ (*participant's name*) have received information about being involved in the Child Observational Play Study. I have read this form, I understand it, and my questions have been answered. I agree to participate in the study and I give permission for my child(ren) to participate.

(Adult Participant's Name - printed)

(Relationship to Child Participant)

(Child's Name - printed)

(Second Child's Name (if applicable)- printed)

Adult Participant Signature

Date

Statement of Person Who Obtained Consent

I have discussed the above points with the participant. It is my opinion that the participants understand the risks, benefits, and procedures involved with participation in this research study.

(Signature of Person who Obtained Consent)

(Date)

**APPENDIX D- Consent For Release Of Video Image And Audio Recording For Scientific
And Educational Purposes**

I, _____ (*your name*), have consented to allow _____ (*child's name*) to participate in a research project conducted by Westat called "Child Observational Play Study." As part of the informed consent form I have signed for my participation in this study, I agree to allow Westat staff to record video image data of my child and audio data of their voice.

The purpose of this Consent for Release of Video and Audio Recording is to allow Westat to use the recording for educational purposes in the classroom, in professional conferences and presentations, and for other similar educational purposes.

I give my permission for Westat, to use the recorded video image and audio recording for the non-research purpose specified above. Under no circumstances will the video be released to the media or distributed on the Internet. If there is a request for the video to be given to the media, I understand I will be asked to sign another release.

I give Westat any rights I may have to the recordings.

I give up any rights that I may have to look at, edit, or approve the recordings.

I release Westat and its employees from any claims that I may have related to the recordings or its use for the purposes referenced above.

Name of Participant's Legal Guardian

Signature of Participant's Legal Guardian

Date

APPENDIX E - Forms For Recording Child Behavior

Figurine 1

Allotted Playtime: 4 minutes

Actual Playtime: _____

Behavior	Yes (check if yes)	Notes
Turns the figurine's head		
Moves the figurine's arms		
Makes the figurine stand		
Makes the figurine walk/run/jump and do other movement		
Puts the figurine in mouth		
Names characters		
Engages in pretend play with one or multiple figurines (e.g., creating interactions between figurines, creating dialogue between figurines, speaking for the figurines)		
Shows frustration with the toy		
Expresses interest in the figurine verbally		
Plays with 1 figurine, 2 figurines, 3-5 figurines, or 5+ figurines		Circle #: 1 2 3-5 5+

Other Items of Note:

Figurine 2

Allotted Playtime: 3 minutes

Actual Playtime:

Behavior	Yes (check if yes)	Notes
Holds the figurine(s)		
Holds / plays with both the Rapunzel and Eugene doll at the same time		
Tries to take off Rapunzel's bodice or skirt		Was child successful (circle): Yes No
Tries to put on Rapunzel's bodice or skirt		Was child successful (circle): Yes No
Turns the figurine's head		
Moves the figurine's arms		
Makes the figurine stand		
Makes the figurine walk/run/jump and do other movement		
Tries to put the tiara on the figurine's head		Was child successful (circle): Yes No
Puts the figurine in mouth		
Shows frustration with the figurine		
Names characters		
Engages in pretend play with one or multiple figurines (e.g., creating interactions between figurines, creating dialogue between figurines, speaking for the figurines)		
Plays with 1 figurine or 2 figurines		Circle #: 1 2

Other Items of Note:

Bubbles

Allotted Playtime: 3 minutes

Actual Playtime: _____

Other Items of Note:

Behavior	Yes (check if yes)	Notes
Holds the bubble tumbler in one hand		
Pulls the wand out of the tumbler		
Tries to blow into the wand to make bubbles		Was child successful (circle): Yes No
Tries to create bubbles by waving the wand		Was child successful (circle): Yes No
Dips the wand into the tumbler and tries to blow bubbles		Was child successful (circle): Yes No Does the child do this more than 1 time (circle): Yes No
Mouths/sucks wand		
Inadvertently puts wand in mouth when attempting to blow bubbles		
Shows frustration with the toy		
Appears to be afraid of the bubbles (i.e., fearful facial expression)		

Musical Instrument Set

Allotted Playtime: 4 minutes

Actual Playtime:

* Performing action more than one time is an attempt to identify intentional behavior versus accidental

Behavior	Yes (check if yes)	Notes
Bangs the drum with hand, drumstick, or other toy to make a sound (does more than one time*)		
Strikes drumsticks against each other to make a sound (does more than one time*)		
Sits with drum between legs		
Shakes the maracas, castanet, or tambourine to make a sound (does more than one time*)		Which:
Uses multiple instruments at the same time to make a sound (does more than one time*)		Which:
Hits self with instrument(s) to make a sound (does more than one time*)		Which:
Puts the instrument(s) in mouth		Which:
Dances while making music		
Hums/sings along while using the toy		
Shows frustration with the toy		
Appears to be afraid of the instrument(s) (i.e., fearful facial expression)		

Other Items of Note:

Take-a-Part Toy 2

Allotted Playtime: Up to 15 minutes

Actual Playtime:

Behavior	Yes (check if yes)	Notes
Lays out the pieces		
Organizes pieces by color, shape, or other characteristic		
Looks at the instructions for assembling the different vehicles		
Connects pieces in order shown in the instructions		
Puts 2 pieces together		
Assembles at least one of the intended vehicles		Which:
Assembles more than one of the intended vehicles		Circle #: 2 3 Which:
Can pull two assembled pieces (of intended vehicle) apart		
Puts toy pieces in mouth		
Shows frustration with the toy		
Loses interest in the toy		

Other Items of Note:

Take-a-Part Toy 1

Allotted Playtime: Up to 15 minutes

Actual Playtime: _____

Behavior	Yes (check if yes)	Notes
Lays out the pieces		
Organizes pieces by color, shape, or other characteristic		
Plane Assembly 1. Looks at the instructions 2. Follows sequence of instructions 3. Tries to connect / attach pieces 4. Matches drill bit shape to shape of different pieces 5. Moves the forward slide switch on the drill to attach two pieces 6. Moves the reverse slide switch on the drill to detach two pieces 7. Able to grip and depress the trigger on the drill 8. Aligns to connect/attach pieces 9. Attaches at least one piece, but not full plane 10. Completely assembles plane	1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____	If child is able to assemble part of the plane, estimate percentage assembled _____ %
If assembles plane or portion of plane, uses drill to disassemble (e.g., take two or more pieces apart)		
Uses free-play time to continue building the plane		
Puts toy pieces in mouth		
Shows frustration with the toy		
Loses interest with the toy		

Other Items of Note:

Smart Toy Dog

Allotted Playtime: 5 minutes

Actual Playtime:

Behavior	Yes (check if yes)	Notes
Pets the dog (does more than one time*)		
Walks dog by pulling on the leash without using the buttons		
Walks the dog by pressing the “walk” button on the handle of the green controller (does more than one time*)		
Makes the dog bark and wag tail by pressing the “bark / wag” button on the green controller (does more than one time*)		
Child walks along side of the dog while pressing on the “walk” button on the green controller		
Puts part of the toy in mouth		Which:
Appears to be afraid of the toy (i.e., fearful facial expression)		
Shows frustration with the toy		

* Performing action more than one time is an attempt to identify intentional behavior versus accidental

Other Items of Note:

Smart Toy Dinosaur

Allotted Playtime: 5 minutes

Actual Playtime:

Behavior	Yes (check if yes)	Notes
Slides on / off switch		
Pets/strokes the dinosaur		
Pats the top of the dinosaur to make it sit (does more than one time*)		
Puts play food in the dinosaur's mouth (does more than one time*)		
Puts their finger in the dinosaur's mouth		
Waves hand in front of dinosaur's face to make it jump (does more than one time*)		
Puts toy pieces in their mouth		
Appears to be afraid of the toy (i.e., fearful facial expression)		
Shows frustration with the toy		

* Performing action more than one time is an attempt to identify intentional behavior versus accidental

Other Items of Note:

Smart Toy Caterpillar

Allotted Playtime: Up to 10 minutes

Actual Playtime: _____

Behavior	Yes (check if yes)	Notes
Slides on / off switch		
Twists the dials (without pressing Go) to choose a direction, music, or sound effect (does more than one time*)		How Many Dials: 1 2 3 4 5 Which Dials:
Presses the Go Button (without twisting dials)		Repeatedly? (circle): Yes No:
Twists the dials (to choose a direction, music, or sound effect) AND presses the Go button (does more than one time*)		How Many Dials: 1 2 3 4 5 Presses Go repeatedly without changing initial sequence they selected (circle): Yes No Changes dials then presses Go again? (circle): Yes No
Adjusts the volume knob at the front of the caterpillar		Repeatedly? (circle): Yes No
Watches the caterpillar as it lights up and then reacts positively to the caterpillar's action		Shows excitement (circle all that apply): Jumps up and down Positive facial expressions Claps hands Walks toward it to caterpillar
Watches the caterpillar as it moves and reacts positively to the caterpillar's action		Shows excitement (circle all that apply): Jumps up and down Positive facial expressions Claps hands Walks toward it to caterpillar
When the caterpillar stops, child dances to the "code" song		
Child is able to program the Code-A-Pillar so that it moves through the course from start to finish line		
Puts toy in mouth		
Appears to be afraid of the toy (i.e., fearful facial expression)		
Shows frustration with the toy		

* Performing action more than one time is an attempt to identify intentional behavior versus accidental

Other Items of Note:

APPENDIX F - Caregiver Questionnaire For Each Toy

Figurine 1

1. Is the size of the toy appropriate for your child?
 - a. No
If no, which parts of the toy are not appropriately sized, and why (e.g., too big, or too small, or too heavy)? _____
 - b. Yes _____
2. Do you think this toy is safe for your child to play with?
 - a. No
If no, which parts of the toy are not safe? _____
 - b. Yes _____
3. Does this toy have an overall appearance (color, details, and design) that would appeal to your child?
 - a. No
 - b. Yes
4. Do you think your child will be frustrated by the toy in any way?
 - a. No
 - b. Yes
If yes, what features might frustrate your child? _____
5. Rate you child's interest in the toy, on a scale of 1 – 5, with 1 = will not play with this toy and 5 = *this toy would be a favorite*? (Select one option)
 1. Will not play with this toy
 2. Will play with it for a short time; then, likely will forget about it or disregard it
 3. Will play with it here and there, but the toy would not be a favorite
 4. Will play with it quite a bit; and would come back to play with it over time
 5. This toy would be a favorite, compared to other toys
6. On a scale of 1- 5 with 1 = Too Difficult and 5 = Too Easy, what do you think about the difficulty level of this toy for your child? (Select one option)
 1. Too Difficult
 2. Somewhat Difficult
 3. Manageable
 4. Somewhat Easy
 5. Too Easy

7. Overall, for what age do you think this toy is best suited? (*open-ended question*)
_____ months/years (circle)

What is it about this toy or its features that makes it appropriate for this age? (*open-ended question*) _____

8. Would you purchase this toy for your child (at his/her current age)?

- a. No
- b. Yes

9. Do you think your child will be able to move the arms and heads of these figurines?

- a. No
- b. Yes

10. Do you think your child will make up stories and scenarios involving these figurines?

- a. No
- b. Yes

11. Would you need to show your child how to play with the figurine playset? (Select all that apply)

- a. No, my child would not need any help
- b. Yes, I would need to show them how to move the head and arms
- c. Yes, I would need to show them how to pretend play with the figures

Figurine 2

12. Is the size of the toy appropriate for your child?

- a. No

If no, which parts of the toy are not appropriately sized, and why (e.g., too big, or too small, or too heavy)? _____

- b. Yes

13. Do you think this toy is safe for your child to play with?

- a. No

If no, which parts of the toy are not safe? _____

- b. Yes

14. When you give your child the toy, would you include the tiara?

- a. No
- b. Yes

15. Does this toy have an overall appearance (color, details, and design) that would appeal to your child?

- a. No

- b. Yes
16. Do you think your child will be frustrated by the toy in any way?
- No
 - Yes
- If yes, what features might frustrate your child? _____
17. Rate you child's interest in the toy, on a scale of 1 – 5, with 1 = will not play with this toy and 5 = *this toy would be a favorite?* (Select one option)
- Will not play with this toy
 - Will play with it for a short time; then, likely will forget about it or disregard it
 - Will play with it here and there, but the toy would not be a favorite
 - Will play with it quite a bit; and would come back to play with it over time
 - This toy would be a favorite, compared to other toys
18. On a scale of 1- 5 with 1 = Too Difficult and 5 = Too Easy, what do you think about the difficulty level of this toy for your child? (Select one option)
- Too Difficult
 - Somewhat Difficult
 - Manageable
 - Somewhat Easy
 - Too Easy
19. Overall, for what age do you think this toy is best suited? (*open-ended question*)
_____ months/years (circle)
- What is it about this toy or its features that makes it appropriate for this age? (*open-ended question*) _____
20. Would you purchase this toy for your child (at his/her current age)?
- No
 - Yes
21. Do you think your child will be able to move the arms and other body parts of these figurines?
- No
 - Yes
22. Do you think your child will engage in pretend play with one or both figurines?
- No
 - Yes, only Rapunzel
 - Yes, only Eugene
 - Yes, both Rapunzel and Eugene

23. Do you think your child will be able to undress the Princess by removing the tiara, bodice/dress, and overskirt? (Select all that apply)
- No
 - Yes, my child will be able to remove the tiara
 - Yes, my child will be able to remove the bodice/dress
 - Yes, my child will be able to remove the overskirt
24. Do you think your child will be able to put the tiara, bodice/dress, and overskirt on the figure? (Select all that apply)
- No
 - Yes, my child will be able to put the tiara on the figure's head
 - Yes, my child will be able to put the bodice/dress (two parts of the skirt) on the figure
 - Yes, my child will be able to put the overskirt on the figure
25. Do you think your child will be able to make the figurines sit and stand?
- No
 - Yes
26. Would you need to show your child how to play with any of the figurines before he/she uses them? (Select all that apply)
- No
 - Yes, I would show them how to move the head and arms
 - Yes, I would demonstrate pretend play with the figures
 - Yes, I would show them how to remove the accessories and put them back on the figure.

Musical Instrument Set

27. Overall, are the instruments in this set an appropriate size for your child?
- No
If no, which instruments are not appropriately sized, and why (e.g., too big, or too small, or too heavy)? _____
 - Yes _____
28. Do you think this toy is safe for your child to play with?
- No
If no, which parts of the toy are not safe? _____
 - Yes
29. Are there any instruments in the set that you would not allow your child to play with?
- No
 - Yes
If yes, which one(s): _____

30. Does this toy have an overall appearance (size, color, details, and design) that would appeal to your child?

- a. No
- b. Yes

31. Do you think your child will be frustrated by the toy in any way?

- a. No
- b. Yes

If yes, what features might frustrate your child? _____

32. Do you think your child will be scared by any of the sounds produced by the instruments?

- a. No
- b. Yes

If yes, what instrument(s) might scare your child?

33. Rate your child's interest in the toy, on a scale of 1 – 5, with 1 = will not play with this toy and 5 = *this toy would be a favorite*? (Select one option)

- 1. Will not play with this toy
- 2. Will play with it for a short time; then, likely will forget about it or disregard it
- 3. Will play with it here and there, but the toy would not be a favorite
- 4. Will play with it quite a bit; and would come back to play with it over time
- 5. This toy would be a favorite, compared to other toys

34. For this entire toy, on a scale of 1- 5 with 1 = Too Difficult and 5 = Too Easy, what do you think about the difficulty level of this toy for your child? (Select one option)

- 1. Too Difficult
- 2. Somewhat Difficult
- 3. Manageable
- 4. Somewhat Easy
- 5. Too Easy

35. Overall, for what age do you think this toy is best suited? (*open-ended question*)

_____ months/years (circle)

What is it about this toy or its features that makes it appropriate for this age? (*open-ended question*) _____

36. Would you purchase this toy for your child (at his/her current age)?

- a. No
- b. Yes

37. For your child, do you think the number of instruments in the set is?

- a. Too few
- b. Just Right

c. Too Many

38. Do you think your child will shake the tambourine stick to produce a sound without you showing them how to do it?

- a. No
- b. Yes

39. Do you think your child will shake the mini maracas to produce a sound without you showing them?

- a. No
- b. Yes

40. Do you think your child will shake the castanet to produce a sound without you showing them?

- a. No
- b. Yes

41. Do you think your child will hit the drum with the drum stick(s) to produce a sound without you showing them?

- a. No
- b. Yes

42. Would you need to show your child how to play with any of the instruments before giving it to your child? (Select all that apply)

- a. No
- b. Yes, I would shake the tambourine stick
- c.** Yes, I would shake the maracas
- d. Yes, I would shake the castanet
- e. Yes, I would play the drum with a drumstick (or drumsticks)

Smart Toy Caterpillar

43. Is the size of the toy appropriate for your child?

- a. No

If no, which parts of the toy are not appropriately sized, and why (e.g., too big, or too small, or too heavy)?

- _____
- b. Yes

44. Do you think this toy is safe for your child to play with?

- a. No

If no, which parts of the toy are not safe? _____

- b. Yes

45. Does this toy have an overall appearance (size, color, details, and design) that would appeal to your child?

- a. No
- b. Yes

46. Do you think your child will be scared by the toy in any way?

- a. No
- b. Yes

If yes, what features might scare your child? _____

47. Do you think your child will be frustrated by the toy in any way?

- a. No
- b. Yes

If yes, what features might frustrate your child? _____

48. Rate you child's interest in the toy, on a scale of 1 – 5, with 1 = will not play with this toy and 5 = *this toy would be a favorite?* (Select one option)

- 1. Will not play with this toy
- 2. Will play with it for a short time; then, likely will forget about it or disregard it
- 3. Will play with it here and there, but the toy would not be a favorite
- 4. Will play with it quite a bit; and would come back to play with it over time
- 5. This toy would be a favorite, compared to other toys

49. On a scale of 1- 5 with 1 = Too Difficult and 5 = Too Easy, what do you think about the difficulty level of this toy for your child? (Select one option)

- 1. Too Difficult
- 2. Somewhat Difficult
- 3. Manageable
- 4. Somewhat Easy
- 5. Too Easy

50. Overall, for what age do you think this toy is best suited? (*open-ended question*)

_____ months/years (circle)

What is it about this toy or its features that makes it appropriate for this age? (*open-ended question*) _____

51. Would you purchase this toy for your child (at his/her current age)?

- a. No
- b. Yes

52. Do you think your child will understand that he/she needs to press the Go button on front of the caterpillar to make it move?

- a. No
- b. Yes

53. Do you think your child will be physically able to turn/twist the dials on the segments with their fingers to have the Code-a-pillar go in different directions or perform different functions?
- No
 - Yes
54. Do you think your child will be able to figure out that turning the dials causes and the caterpillar's actions (e.g. turn right or left)?
- No
 - Yes
55. Do you think your child will be able to slide the on/off switch on the underside of the caterpillar?
- No
 - Yes
56. Would you show your child how to operate the caterpillar before giving it to your child to use independently? (Select all that apply)
- No
 - Yes, I would press the "go" button at the front of the caterpillar
 - Yes, I would turn/twist the dials on the segments and then press the "Go" button, but do not discuss how this affects the caterpillar's movement
 - Yes, I would turn/twist the dials on the segments and then press the "Go" button and I would discuss what each does

Smart Toy Dinosaur

57. Is the size of the toy appropriate for your child?
- No
If no, which parts of the toy are not appropriately sized, and why (e.g., too big, or too small, or too heavy)? _____
 - Yes
58. Do you think this toy is safe for your child to play with?
- No
If no, which parts of the toy are not safe? _____
 - Yes
59. Does this toy have an overall appearance (size, color, details, and design) that would appeal to your child?
- No
 - Yes
60. Do you think your child will be scared by the toy in any way?

- a. No
- b. Yes

If yes, what features might scare your child? _____

61. Do you think your child will be frustrated by the toy in any way?

- a. No
- b. Yes

If yes, what features might frustrate your child? _____

62. Rate you child's interest in the toy, on a scale of 1 – 5, with 1 = will not play with this toy and 5 = *this toy would be a favorite*? (Select one option)

- 1. Will not play with this toy
- 2. Will play with it for a short time; then, likely will forget about it or disregard it
- 3. Will play with it here and there, but the toy would not be a favorite
- 4. Will play with it quite a bit; and would come back to play with it over time
- 5. This toy would be a favorite, compared to other toys

63. On a scale of 1- 5 with 1 = Too Difficult and 5 = Too Easy, what do you think about the difficulty level of this toy for your child? (Select one option)

- 1. Too Difficult
- 2. Somewhat Difficult
- 3. Manageable
- 4. Somewhat Easy
- 5. Too Easy

64. Overall, for what age do you think this toy is best suited? (*open-ended question*)

_____ months/years (circle)

What is it about this toy or its features that makes it appropriate for this age? (*open-ended question*) _____

65. Would you purchase this toy for your child (at his/her current age)?

- a. No
- b. Yes

66. Do you think your child will try to "feed" the dinosaur?

- a. No
- b. Yes

67. Do you think your child will be able to turn on the toy?

- a. No
- b. Yes

68. Do you think your child will figure out that waving their hand in front of the dinosaur's head will cause the dinosaur to jump?

- a. No
- b. Yes

69. Do you think that your child will figure out that patting the top of the dinosaur's head will cause it to sit?

- a. No
- b. Yes

70. Would you show your child how to operate the dinosaur before giving it to your child to use independently? (Select all that apply)

- a. No
- b. Yes, I would turn on the toy
- c. Yes, I would put the food into the dinosaur's mouth
- d.** Yes, I would wave my hands and pat the dinosaur on top of the head
- e.** Yes, I would verbally explain what the toy can do

Smart Toy Dog

71. Is the size of the toy appropriate for your child?

- a. No

If no, which parts of the toy are not appropriately sized, and why (e.g., too big, or too small, or too heavy)? _____

- b. Yes

72. Do you think this toy is safe for your child to play with?

- a. No

If no, which parts of the toy are not safe? _____

- b. Yes

73. Does this toy have an overall appearance (size, color, details, and design) that would appeal to your child?

- a. No
- b. Yes

74. Do you think your child will be scared by the toy in any way?

- a. No
- b. Yes

If yes, what features might scare your child? _____

75. Do you think your child will be frustrated by the toy in any way?

- a. No
- b. Yes

If yes, what features might frustrate your child? _____

76. Rate you child's interest in the toy, on a scale of 1 – 5, with 1 = will not play with this toy and 5 = *this toy would be a favorite?* (Select one option)

1. Will not play with this toy
2. Will play with it for a short time; then, likely will forget about it or disregard it
3. Will play with it here and there, but the toy would not be a favorite
4. Will play with it quite a bit; and would come back to play with it over time
5. This toy would be a favorite, compared to other toys

77. On a scale of 1- 5 with 1 = Too Difficult and 5 = Too Easy, what do you think about the difficulty level of this toy for your child? (Select one option)

1. Too Difficult
2. Somewhat Difficult
3. Manageable
4. Somewhat Easy
5. Too Easy

78. Overall, for what age do you think this toy is best suited? (*open-ended question*)
_____ months/years (circle)

What is it about this toy or its features that makes it appropriate for this age? (*open-ended question*) _____

79. Would you purchase this toy for your child (at his/her current age)?

- a. No
- b. Yes

80. Do you think your child will press the buttons on the green controller?

- a. No
- b. Yes, press one button
- c. Yes, press both buttons

81. Do you think your child will figure out the connection between pressing the different buttons and the dog's response or actions?

- a. No
- b. Yes

82. Will your child walk alongside the dog while using the controller/pressing the button that causes the dog to walk?

- a. No
- b. Probably not
- c. Maybe/Not sure
- d. Probably
- e. Yes

83. Would you show your child how to operate the remote control before giving it to your child to use independently?

- a. No
- b. Yes, I would press both buttons, but not describe the function
- c. Yes, I would press one or both of the buttons and/or describe the function

Take-a-Part Toy 1

84. Are the size of the toy parts appropriate for your child?

- a. No
If no, which parts of the toy are not appropriately sized, and why (e.g., too big, or too small, or too heavy)? _____

- b. Yes

85. Do you think this toy is safe for your child to play with?

- a. No
If no, which parts of the toy are not safe? _____

- b. Yes

86. Does this toy have an overall appearance (size, color, details, and design) that would appeal to your child?

- a. No
- b. Yes

87. Do you think your child will be frustrated by the toy in any way?

- a. No
- b. Yes
If yes, what features might frustrate your child? _____

88. Rate you child's interest in the toy, on a scale of 1 – 5, with 1 = will not play with this toy and 5 = *this toy would be a favorite*? (Select one option)

1. Will not play with this toy
2. Will play with it for a short time; then, likely will forget about it or disregard it
3. Will play with it here and there, but the toy would not be a favorite
4. Will play with it quite a bit; and would come back to play with it over time
5. This toy would be a favorite, compared to other toys

89. On a scale of 1- 5 with 1 = Too Difficult and 5 = Too Easy, what do you think about the difficulty level of this toy for your child? (Select one option)

1. Too Difficult
2. Somewhat Difficult
3. Manageable
4. Somewhat Easy
5. Too Easy

90. Overall, for what age do you think this toy is best suited? (*open-ended question*)
_____ months/years (circle)

What is it about this toy or its features that makes it appropriate for this age? (*open-ended question*) _____

91. Would you purchase this toy for your child (at his/her current age)?
- No
 - Yes
92. For your child, do you think the number of pieces in the set is?
- Too few
 - Just Right
 - Too Many
93. Do you think your child will be able to put the plane pieces together *without any help*?
- My child would not be able to put the pieces together
 - My child would be able to put 1 or 2 pieces together
 - My child would be able to assemble half of the plane
 - My child would be able to build most of the plane
 - My child would be able to build the entire plane
94. Do you think your child will be able to hold the drill and pull the trigger?
- No
 - Will try to, but not successfully
 - Yes
95. Does your child need to be shown how to use the drill?
- No
 - Yes
96. Does your child have the fine motor skills needed to hold 2 or more toy pieces and a screw in place while at the same time operating the drill to join the pieces together?
- No
 - Will try to, but not successfully
 - Yes
97. Do you think your child will notice the different shapes for the various drill bits and know to change the drill bit for the different-shaped toy pieces?
- No
 - Yes
98. Assuming the vehicle is assembled, would your child be able to manually take apart the pieces by unscrewing them with their fingers?
- No
 - Yes

99. Would your child be able to use the drill in reverse setting on his/her own to effectively separate the pieces?
- No
 - Yes
100. How would you present this toy to your child?
- Completely unassembled, give the parts as they are
 - Assembled partially
 - Assembled fully
101. Would you need to show your child how to play with any parts of the toy before giving it to him or her to play with independently? (Select all that apply)
- No, I would give the toy to my child and see how they play with it first.
 - I would show how to hold the drill correctly; in a pistol grip with finger over the activation button
 - I would show how to move the Forward and Reverse button on the top of the drill
 - I would show how to follow the directions to select toy pieces to put together
 - I would show how to select the right drill bit for differently shaped yellow connector pieces
 - I would show how to align the pieces and drill them together

Take-a-Part Toy 2

102. Is the size of the toy appropriate for your child?
- No
If no, which parts of the toy are not appropriately sized, and why (e.g., too big, or too small, too heavy)? _____
 - Yes
103. Do you think this toy is safe for your child to play with?
- No
If no, which parts of the toy are not safe? _____
 - Yes
104. Does this toy have an overall appearance (size, color, details, and design) that would appeal to your child?
- No
 - Yes
105. Do you think your child will be frustrated by the toy in any way?
- No
 - Yes
If yes, what features might frustrate your child? _____

106. Rate you child's interest in the toy, on a scale of 1 – 5, with 1 = will not play with this toy and 5 = *this toy would be a favorite?* (Select one option)
1. Will not play with this toy
 2. Will play with it for a short time; then, likely will forget about it or disregard it
 3. Will play with it here and there, but the toy would not be a favorite
 4. Will play with it quite a bit; and would come back to play with it over time
 5. This toy would be a favorite, compared to other toys
107. On a scale of 1- 5 with 1 = Too Difficult and 5 = Too Easy, what do you think about the difficulty level of this toy for your child? (Select one option)
1. Too Difficult
 2. Somewhat Difficult
 3. Manageable
 4. Somewhat Easy
 5. Too Easy
108. Overall, for what age do you think this toy is best suited? (*open-ended question*)
 _____ months/years (circle)
- What is it about this toy or its features that makes it appropriate for this age? (*open-ended question*) _____
109. Would you purchase this toy for your child (at his/her current age)?
- a. No
 - b. Yes
110. For your child, do you think the number of pieces in the set is?
- a. Too few
 - b. Just Right
 - c. Too Many
111. Do you think your child will have the fine motor skills to put the different pieces together?
- a. No
 - b. Will try to, but not successfully
 - c. Yes
112. Do you think your child will be able to put together any of the vehicles?
- a. No
 - b. Yes, partially assemble 1 vehicle
 - c. Yes, fully assemble 1 vehicle
 - d. Yes, partially assemble 2 or more vehicles
 - e. Yes, fully assemble 2 or more vehicles
113. Once the vehicle is assembled, do you think your child would be able to take apart the pieces?
- a. No, will not be able to disconnect the pieces

- b. Yes
114. Do you think your child would be motivated to take the assembled vehicle apart?
- a. No, will continue using it assembled
 - b. Yes
115. How would you present this toy to your child?
- a. Completely unassembled, give the parts as they are
 - b. Assembled partially
 - c. Assembled fully
116. Would you need to show your child how to play with any parts of the toy before giving it to him or her to play with independently? (Select all that apply)
- a. No, I would not demonstrate how to use the toy before giving it to my child
 - b. Yes, I would show them how to connect the some of the larger part
 - c. Yes, I would show them how to put on the smaller parts
 - d. Yes, I would build the plane/train/rocket

Toy 1: Bubbles

117. Is the size of the toy (or its parts) appropriate for your child to use?
- a. No
If no, which parts of the toy are not appropriately sized (wand or tumbler), and why (e.g., too big, or too small, or too heavy)? _____
 - b. Yes
118. Do you think this toy is safe for your child to play with?
- a. No
If no, which parts of the toy are not safe? _____
 - b. Yes
119. Does this toy have an overall appearance (color, details, and design) that would appeal to your child?
- a. No
 - b. Yes
120. Do you think your child will be frustrated by the toy in any way?
- a. No
 - b. Yes
If yes, what features might frustrate your child? _____
121. Rate you child's interest in the toy, on a scale of 1 – 5, with 1 = will not play with this toy and 5 = *this toy would be a favorite?* (Select one option)
- 1. Will not play with this toy

2. Will play with it for a short time; then, likely will forget about it or disregard it
 3. Will play with it here and there, but the toy would not be a favorite
 4. Will play with it quite a bit; and would come back to play with it over time
 5. This toy would be a favorite, compared to other toys
122. On a scale of 1- 5 with 1 = Too Difficult and 5 = Too Easy, what do you think about the difficulty level of this toy for your child? (Select one option)
1. Too Difficult
 2. Somewhat Difficult
 3. Manageable
 4. Somewhat Easy
 5. Too Easy
123. Overall, for what age do you think this toy is best suited? (*open-ended question*)
 _____ months / years (circle)
- What is it about this toy or its features that makes it appropriate for this age? (*open-ended question*) _____
124. Would you purchase this toy for your child (at his/her current age)?
- a. No
 - b. Yes
125. Do you think your child will be able to dip the wand into the bubble solution?
- a. No
 - b. Yes
126. Do you think your child will be able to successfully blow bubbles using this toy on his or her own?
- a. No
 - b. Yes
127. Would you need to help your child use the bubble tumbler? (Select all that apply)
- a. Yes, I would dip the wand and blow bubbles to show my child how it is done
 - b. Yes, I would dip the wand in bubbles and hold the wand for my child while they blow bubbles
 - c. Yes, I would dip the wand in bubbles and give the wand to my child.
 - d.** No, I would give the bubble tumbler and wand to my child so he/she can use it on their own.

APPENDIX G - Recruitment Screener
(Completed by adult guardian)

Date: _____

Thank you for your interest in our study. First, I would like to tell you a little bit about the study and if you are still interested, I will need to get some information from you.

Westat is conducting the study for the Consumer Product Safety Commission (CPSC) and we are looking for children between the ages of 2- through 4-years-old. The study is being conducted to gather information that will help the CPSC determine the developmentally appropriate ages for selected toys. To do this, your child will be asked to play with nine different toys. We will also be asking you to look at the toys and fill out a questionnaire. The study will take place over two sessions. The first session will take about 75 minutes and the second session will be 60 minutes, both will take place at Westat in Rockville, MD.

During the study, information will be gathered from observational data of your child's interactions with ten toys from six toy categories (smart toys, take-apart vehicles, musical instruments, figurines, plush toys with electronic components, and manipulatives). You will be asked to be present at all times. We will be videotaping your child playing with the toys to help with our analysis and writing a report of our findings. Additionally, you will be given the opportunity to look at the toys. You will be able to interact with the toy and you will be asked to complete a self-administered questionnaire that asks about your opinion with respect to various topics, such as buying habits, safety, etc. You will be paid \$150 when you and your child complete the study.

We will not be scheduling you for a session today. If your child is eligible, we will add his/her name to the list of potential participants.

NOTE: If parent/guardian has multiple children, complete a screener for each child. Keep screener forms together.

If you are interested, I will need to ask you a few questions to determine if your child is eligible. Are you interested in participating?

- a. Yes (*If yes, proceed*).
- b. No (*If no, thank the person for their time and end the screener*).

1. What is your Full Name? _____

2. How many children do you have between the ages of 2- through 4-years-old?

If more than one child, explain to the caregiver that:

- *A separate screener form must be completed for each child.*
- *There is a possibility that only one child may be selected to participate in the study.*
- *If more than one child is selected to participate, the caregiver will need to come in on two separate occasions to participate.*

3. What is your Child's Full Name? _____

4. How old is your child? _____ (If child is < 2 or > 4, thank the person for their time and end the screener).

5. What is your child's date of birth? _____

6. What is your child's gender / How does your child identify?

a. Male OR b. Female OR c. Non-binary

7. Is your child of Hispanic or Latino origin?

a. Yes b. No

8. What is your child's race/ethnicity? Please indicate all that apply to your child:

[Circle all that apply]

- a. American Indian or Alaska Native
- b. Asian
- c. Black or African American
- d. Native Hawaiian or other Pacific Islander
- e. White/Caucasian
- f. Other (Specify) _____

9. Has _____ *[insert child's name]* been diagnosed by a medical professional with any of the following conditions? *[Circle all that apply]*
- a. Attention Deficit Hyperactivity Disorder (ADHD)
 - b. Developmental Delays, Disabilities, or Disorders (e.g. Autism, Downs Syndrome, Cerebral Palsy)
(Specify) _____
 - c. Hearing Loss
 - d. Vision Loss
10. In your opinion, do you think _____ *[insert child's name]* displays separation anxiety? Separation anxiety is defined as extreme negative reaction such as crying and throwing tantrums, when parent is not around.
- a. Yes
 - b. No
11. Has _____ *[insert child's name]* ever engaged in destructive behaviors at home, for example intentionally breaking toys or household objects?
- a. Yes
 - b. No
12. In the past year, how often do you purchase toys for _____ *[insert child's name]*?
- a. More than 2 times a month
 - b. Once a month
 - c. Every 3 or 4 months
 - d. Only on birthdays or holidays (two times per year)
13. Where do most typically purchase toys for _____ *[insert child's name]*? *[Circle all that apply]*
- a. In-person at "big-box" stores, like Target, Walmart, Kmart, or Kohl's
 - b. In-person at a boutique toy store
 - c. At a second-hand store or yard sale
 - d. Online
14. What is your total household income?
- a. Less than \$50,000
 - b. \$50,000 - \$100,000
 - c. \$101,000 - \$150,000

- d. \$151,000 - \$200,000
- e. Greater than \$200,000

15. What is your highest level of education completed?

- a. Did Not Complete High School
- b. High School/GED
- c. Bachelor's Degree
- d. Master's Degree
- e. Advanced Graduate work or Ph.D.

16. Can you tell me a phone number where we can easily contact you?

Home: _____

Cell: _____

17. Email Address:

18. Home Address (including City and State):

19. How did you hear about the study?

- a. Newspaper
- b. Friend
- c. Email
- d. Craig's List
- e. Flyer
- f. Other _____

20. Can you tell me which days of the week and times you and your child might be available, if your child is selected to participate?

Closing:

Thank you for your time and interest. Once we get a pool of names together, we will schedule the sessions. We cannot guarantee that your child will be included in the study, but we will make every effort to include your child.

If you have any questions, you can reach us at _____ (*provide the phone number of the person who is screening*). In addition, if you know anyone else who might be interested in participating, please pass on the contact information to him/her.

Hang up phone.

APPENDIX H - Question-by-Question Justification Caregiver Questionnaires for Nine Selected Toys

From an early age, toys are an important part of a child’s physical, mental, and emotional development. By playing with toys, children develop their fine and gross motor skills, learn to walk, talk, socialize, acquire knowledge, grow emotionally, and develop creativity and imagination as well as spatial awareness. Today’s brick-and-mortar stores and online retailers offer a myriad of toys that are marketed for children, posing a challenge to caregivers who need to identify age-appropriate toys that are safe and which their children will enjoy. When purchasing age-appropriate toys for a child, the caregiver should consider: (1) the physical characteristics of the toy (e.g., size and weight of the toy and its components); (2) the toy’s theme and appearance and the overall appeal of a toy for a certain age group; and, (3) the cognitive and emotional requirements as well as the fine motor or other physical skills required to use the toy as the manufacturer intended.

While interacting with age-appropriate toys can contribute to the development of the child’s imagination and coordination, interacting with toys intended for an older child has the potential to cause serious or fatal injuries. In 2020, an estimated 198,000 toy-related injuries were treated in U.S. hospital emergency rooms¹. Of the 198,000 toy-related injuries, an estimated 40% happened to children 4 years of age or younger. Many injuries result from parents underestimating their child’s mouthing behavior, giving toys to their children that intended for an older age group, a child inadvertently gaining access to a toy meant for an older sibling, or a child using a toy in an unintended manner.

The Caregiver Questionnaires used for data collection are intended to gather information on the caregiver’s perspective on the age-appropriateness of the toy with respect to its physical characteristics, its overall appeal to their child, and their child’s ability to interact and use the features of the toy in a way manufacturer intended. Researchers will compare the child’s actual behavior and abilities when interacting with the toys with their caregiver’s perceptions of their child’s interests and abilities to interact with the toy as intended. The caregiver’s perception of the toy’s age-appropriateness and their child’s ability to use the toy as intended may not always align with each other or with the manufacturer recommended age, as such it is important to understand when there are discrepancies.

Prior to completing the questionnaire for each toy, caregivers will have an opportunity to interact with the toy so they can provide a more informed response to the questions. Since caregivers consider information viewed on product packaging, as well as the physical characteristics and theme of the toys when making a purchase, providing caregivers with an opportunity to view packaging and interact with the toy will enable them to give more informed responses as to whether the toy is age-appropriate for their child.

The questionnaires for each of the nine toys are designed similarly. That is, questions initially address the physical characteristics of the toy, followed by questions on the theme and

¹ The Consumer Product Safety Commission: [Toy-Related Deaths and Injuries, Calendar Year 2020. July, 2021: Toy-Related Deaths and Injuries, Calendar Year 2020 \(cpsc.gov\)](https://www.cpsc.gov/Default.aspx?CPSearch=Toy-Related%20Deaths%20and%20Injuries)

appearance, how appealing it will be to the child and the age appropriateness of the toy, and finally their child’s ability to use the toy as intended by the manufacturer. The length of the questionnaire for each toy ranges from 11-18 questions, depending on the complexity of the toy and the number of pieces.

Physical characteristics - Toy size and safety.

As noted above physical characteristics of a toy, are considered by caregivers when making purchasing decision and used by child safety experts and CPSC researchers when conducting age determinations for toys. The questions identified below are intended to capture the caregiver’s perception of whether the toy is safe for their child, and if the toy and its parts, are appropriately sized. If not, they are asked to identify which parts may not be appropriately sized and provide an explanation.

Toy	Question
Bubbles	Questions 1-2
Figurine 1	Questions 1-2
Take-a-Part Toy 1	Questions 1-2
Take-a-Part Toy 2	Questions 1-2
Smart Toy Dog	Questions 1-2
Smart Toy Dinosaur	Questions 1-2
Smart Toy Caterpillar	Questions 1-2
Figurine 2	Questions 1-3
Musical Instrument Set	Questions 1-3

Theme and Appearance - How appealing and interesting the toy is to the child.

Physical characteristics of the toy such as color, design, and details, as well as the toy’s overall theme are taken into consideration when making purchasing decisions and for determining whether a toy is age appropriate. For example, toys with more simplistic facial features or simplistic designs and colors are designed to appeal to younger children, whereas toys with more intricate and highly detailed facial features may be intended for older children. Additionally, toys that move or make sudden loud noises may not be appealing younger children ages. The questions identified below focus on the caregiver’s perception of how appealing the toy may be for their child. These questions are intended to capture the caregiver’s perception of their child’s interest in the toy with respect to willingness of the child to engage in play. Researchers will examine how their responses, their child’s age, and the age label provided by the manufacturer align.

Toy	Question
Bubbles	Questions 3 & 5

Figurine 1	Questions 3 & 5
Take-a-Part Toy 1	Questions 3 & 5
Take-a-Part Toy 2	Questions 3 & 5
Smart Toy Dog	Questions 3, 4, & 6
Smart Toy Dinosaur	Questions 3, 4, & 6
Smart Toy Caterpillar	Questions 3, 4, & 6
Figurine 2	Questions 4 & 6
Musical Instrument Set	Questions 4, 6, & 7

General assessment of the age-appropriateness of the toy / the appropriate age for toy.

Having interacted with each toy caregivers can provide an informed response with respect to their perception of the age of a child for which this toy would be best suited as well as whether the caregiver would purchase the toy for their child at their current age. Researchers will compare their responses to the manufacturer’s age label to see how closely they align.

Toy	Question
Bubbles	Questions 7-8
Figurine 1	Questions 7-8
Take-a-Part Toy 1	Questions 7-8
Take-a-Part Toy 2	Questions 7-8
Smart Toy Dog	Questions 8-9
Smart Toy Dinosaur	Questions 8-9
Smart Toy Caterpillar	Questions 8-9
Figurine 2	Questions 8-9
Musical Instrument Set	Questions 9-10

Child’s ability to use the toy as intended by the manufacturer.

A key factor in deciding to purchase a toy and in age determination is whether the child can use the toy as the manufacturer intends. The questions listed below are focused on ascertaining the caregiver’s perception of the child’s ability to use the toy and all its parts as intended by the manufacturer, both physically and cognitively. Specifically, responses will address whether they believe their child will be able to physically manipulate the toy’s parts as intended, and identifying any difficulty they perceive their child may have or frustration they may experience in not being able to complete the intended task. Questions also ask the caregiver if they think their child would have the cognitive ability to understand the proper way to use the toy as well as if they would demonstrate how to use the toy before giving the toy to the child for solo play. If the toy has many parts, we also ask if the caregiver believes if the number appropriate for their child. Researchers will examine how their responses, their child’s age, and the age label provided

by the manufacturer align. Additionally, researchers will compare caregiver responses to child response during actual play.

Toy	Question
Bubbles	Questions 4, 6, 9-11
Figurine 1	Questions 4, 6, 9-11
Take-a-Part Toy 1	Questions 4, 6, 9-18
Take-a-Part Toy 2	Questions 4, 6, 9-15
Smart Toy Dog	Questions 5, 7,10-13
Smart Toy Dinosaur	Questions 5, 7, 10-14
Smart Toy Caterpillar	Questions 5, 7, 10-14
Figurine 2	Questions 5, 7, 10-15
Musical Instrument Set	Questions 5, 8, 11-16