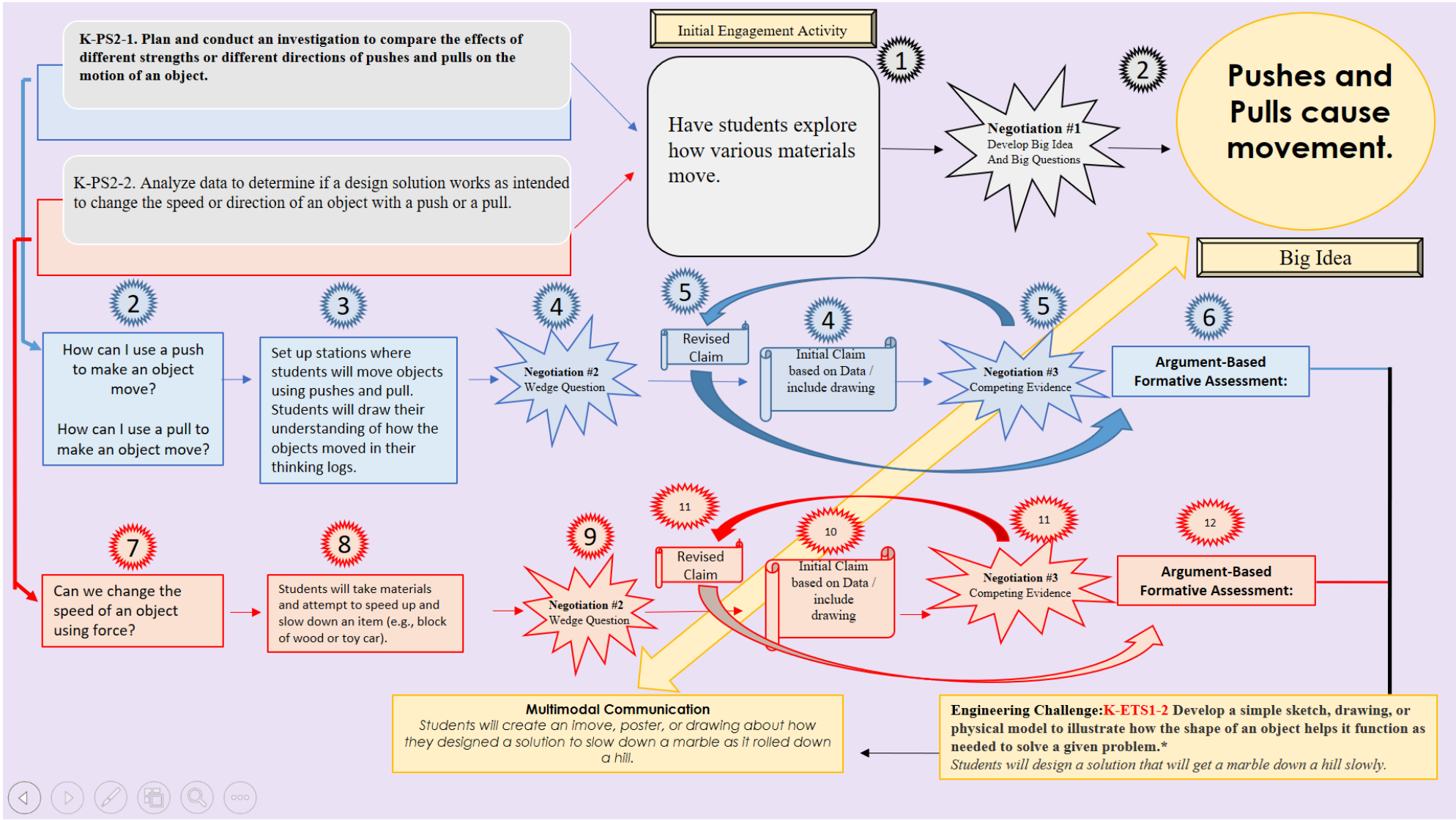
K-PS2-1. Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.
K-PS2-2. Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull.
Initial Engagement Activity
1
Have students explore how various materials move.
Negotiation #1
Develop Big Idea
And Big Questions
2
Pushes and Pulls cause movement.
Big Idea
2
How can I use a push to make an object move?
How can I use a pull to make an object move?
3
Set up stations where students will move objects using pushes and pull. Students will draw their understanding of how the objects moved in their thinking logs.
4
Negotiation #2
Wedge Question
5
Revised Claim
4
Initial Claim based on Data / include drawing
5
Negotiation #3
Competing Evidence
6
Argument-Based Formative Assessment:
7
Can we change the speed of an object using force?
8
Students will take materials and attempt to speed up and slow down an item (e.g., block of wood or toy car).
9
Negotiation #2
Wedge Question
11
Revised Claim
10
Initial Claim based on Data / include drawing
11
Negotiation #3
Competing Evidence
12
Argument-Based Formative Assessment:
Multimodal Communication
Students will create an imove, poster, or drawing about how they designed a solution to slow down a marble as it rolled down a hill.
Engineering Challenge:K-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.*
Students will design a solution that will get a marble down a hill slowly.